

**Amendments To The Claims:**

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1.-5. (canceled)

6. (new) A gas chromatograph arrangement, comprising:

a gas chromatograph;

a separation device for separating materials of a substance mixture passing through the separation device;

a detector for non-destructive detecting the separated materials;

an evaluation device arranged downstream of the detector for evaluating detector signals generated by the detector;

a controllable inlet valve; and

a mass spectrometer, wherein the gas chromatograph is connected via the controllable inlet valve to the mass spectrometer arranged downstream of the gas chromatograph, wherein the inlet valve is connected to an output of the separation device, wherein the detector is arranged in-line between an output of the separation device and the inlet valve, and wherein

the evaluation device is configured to control the inlet valve for feeding predetermined materials into the mass spectrometer based on the evaluated detector signals.

7. (new) The gas chromatograph in accordance with claim 6, wherein the detector comprises a measurement path through which the substance mixture passes of which the cross-sectional dimensions at least approximately correspond to the cross-sectional dimensions of the separation device.

8. (new) The gas chromatograph in accordance with claim 7, wherein the detector is a heat conductivity detector.

9. (new) The gas chromatograph in accordance with claim 8, wherein the heat conductivity detector comprises heat resistors arranged in a bridge circuit, wherein two heat resistors lie

diagonally opposite one another in two different halves of the bridge being arranged in the measurement path.

10. (new) A method for gas chromatographic analysis of a substance mixture, the method comprising:

directing the substance mixture for separation of the materials contained within it by means of a carrier gas through a separation device at the output of which the separated materials arriving are introduced for quantitative determination via a controllable inlet valve into a mass spectrometer; and

detecting the separated materials by a detector arranged in-line between the output of the separation device and the inlet valve and, as a function of the detection, the inlet valve being controlled for introduction of predetermined materials into the mass spectrometer.

11. (new) A gas chromatograph, comprising:

a separation device for separating materials of a substance mixture passing through it;

a detector for detecting the separated materials in a non-destructive manner; and

an evaluation device arranged downstream of the detector for evaluating detector signals generated by the detector, wherein the gas chromatograph is adapted to be connected via a controllable inlet valve to a mass spectrometer arranged downstream of the gas chromatograph, wherein the inlet valve is connected to an output of the separation device, wherein the detector is arranged in-line between the output of the separation device and the inlet valve, and wherein the evaluation device controls the inlet valve for feeding predetermined materials into the mass spectrometer on the base of evaluated detector signals.